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American Environmental Network

126 West Center Court • Schaumburg, IL 60195 • (847) 705-0740 • Fax (847) 705-1567 • 1-800-933-2580

May 20, 1998

Winnebago Reclamation
Tom Hilbert
8403 Lindenwood

Rockford, IL 61109

Dear Tom Hilbert:

Please find enclosed the analytical results of the samples received at our laboratory on April 03, 1998. This report contains sections addressing the following information at a minimum:

-Definitions

-Analytical Methodology

-Analytical Results

-Chain-of-custody

AEN Project#: L72980670

Client Project: W.R.S. LEACHATE

Purchase Order#:

AEN Quote#:

Site:

Copies of this analytical report and supporting data are maintained in our files for three years; samples are retained for two weeks unless special arrangements have been made. Unless specifically indicated, all analytical testing was performed at this laboratory and no portion of the testing was subcontracted.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact J. Dowse at (800) 933-2580 for any additional information. Thank you for utilizing our services, we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Sincerely

Jim Dowse Jr.

Peter Frick
General Manager
American Environmental Network

Sample Summary

IIEA-Illinois
Laboratory ID Client ID

L72980670-001	L301
L72980670-002	L301 (DISS)



Definitions of Data Qualifiers

Organic Analysis

- B** - This analyte was detected in the method blank associated with this sample. The concentration reported in the method blank is suspected to contribute to the reported concentration of the analyte in the sample.
- E** - The concentration reported for this compound exceeds the calibration range of the instrument.
- H** - This sample had one or more surrogate recoveries above the acceptance criteria due to coelution with a nontarget compound.
- J** - The reported concentration for this compound is an estimated value. When associated with tentatively identified compounds (TICs), the result is quantitated based on a response factor of 1. When the flag is associated with a calibrated target compound, the compound has been positively identified and the reported concentration is above the method detection limit (MDL), but below the practical quantitation limit (PQL).
- L** - This sample had one or more surrogate recoveries below the acceptance criteria due to matrix effects. This effect was confirmed through a second analysis of the sample.
- LI** - The recovery of the internal standard corresponding to this compound did not meet the acceptance criteria due to matrix effects. This effect was confirmed through a second analysis of the sample.
- T1** - The chromatographic profile of this sample does not match that of a gasoline standard. Another unidentifiable petroleum product is present in this sample. Quantitation is based on a gasoline standard calibration.
- T2** - The chromatographic profile of this sample does not match that of a diesel fuel standard. Another petroleum product is present in this sample. Quantitation is based on a diesel fuel standard calibration.
- U** - This compound was not detected in the sample above the PQL.
- UD** - This compound was not detected above the elevated PQL in this diluted analysis.

Inorganic Analysis

- E** - The reported value was estimated due to the presence of interference.
- M** - Duplicate injection precision was not met.
- N** - Spiked sample recovery was not within control limits.
- S** - The reported value was determined by the Method of Standard Additions(MSA).
- W** - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
- *** - Duplicate analysis was not within control limits.
- +** - Correlation Coefficient for the MSA is less than 0.995.

Client : Winnebago Reclamation
Project ID : W.R.S. LEACHATE

Winnebago Program #1 Compound List
GCMS Volatiles Analysis

Lab Sample Number : L72980670-001	Method: 8260
Client ID : L301	Matrix : WATER

Compound	Result	PQL	Units	Dilution Factor	Sample Date	Analysis Date
Dichlorodifluoromethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Chloromethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Vinyl Chloride	< 10	10	ug/L	5	4/ 3/98	4/ 8/98
Bromomethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Chloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Trichlorofluoromethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1-Dichloroethene	< 10	10	ug/L	5	4/ 3/98	4/ 8/98
Methylene Chloride	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
trans-1,2-Dichloroethene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1-Dichloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
2,2-Dichloropropane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
cis-1,2-Dichloroethene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Chloroform	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1,1-Trichloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1-Dichloropropene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Carbon Tetrachloride	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Benzene	< 10	10	ug/L	5	4/ 3/98	4/ 8/98
1,2-Dichloroethane	< 10	10	ug/L	5	4/ 3/98	4/ 8/98
Trichloroethene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Dibromomethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2-Dichloropropane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Bromodichloromethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
cis-1,3-Dichloropropene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Toluene	79	25	ug/L	5	4/ 3/98	4/ 8/98
trans-1,3-Dichloropropene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1,2-Trichloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,3-Dichloropropane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Tetrachloroethene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Dibromochloromethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Bromoform	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Chlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1,1,2-Tetrachloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Ethylbenzene	38	25	ug/L	5	4/ 3/98	4/ 8/98
Xylenes, Total	91	50	ug/L	5	4/ 3/98	4/ 8/98
Styrene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Bromoform	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Isopropylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,1,2,2-Tetrachloroethane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Bromobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2,3-Trichloropropane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98

Client : Winnebago Reclamation
Project ID : W.R.S. LEACHATE

Winnebago Program #1 Compound List
GCMS Volatiles Analysis

Lab Sample Number : L72980670-001	Method: 8260
Client ID : L301	Matrix : WATER

<u>Compound</u>	<u>Result</u>	<u>PQL</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>Sample Date</u>	<u>Analysis Date</u>
n-Propylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
2-Chlorotoluene	< 5	5	ug/L	5	4/ 3/98	4/ 8/98
1,3,5-Trimethylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2,4-Trimethylbenzene	29	25	ug/L	5	4/ 3/98	4/ 8/98
tert-Butylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
sec-Butylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,3-Dichlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,4-Dichlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2-Dichlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
n-Butylbenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2-Dibromo-3-Chloropropane	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2,4-Trichlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
1,2,3-Trichlorobenzene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Acetone	< 50	50	ug/L	5	4/ 3/98	4/ 8/98
Carbon Disulfide	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Vinyl Acetate	< 50	50	ug/L	5	4/ 3/98	4/ 8/98
2-Butanone	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
2-Chloroethyl Vinyl Ether	< 50	50	ug/L	5	4/ 3/98	4/ 8/98
2-Hexanone	< 50	50	ug/L	5	4/ 3/98	4/ 8/98
p-Isopropyltoluene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Iodomethane	< 5	5	ug/L	5	4/ 3/98	4/ 8/98
1-Propanol	< 2,500	2,500	ug/L	5	4/ 3/98	4/ 8/98
2-Propanol	< 2,500	2,500	ug/L	5	4/ 3/98	4/ 8/98
Tetrahydrofuran	280	25	ug/L	5	4/ 3/98	4/ 8/98
4-Methyl-2-Pentanone	< 50	50	ug/L	5	4/ 3/98	4/ 8/98
4-Chlorotoluene	< 5	5	ug/L	5	4/ 3/98	4/ 8/98
n-Butyl Alcohol	< 2,500	2,500	ug/L	5	4/ 3/98	4/ 8/98
Trans-1,4-Dichloro-2-Butene	< 25	25	ug/L	5	4/ 3/98	4/ 8/98
Ethyl Acetate	< 25	25	ug/L	5	4/ 3/98	4/ 8/98

Note: Bis-(chloromethyl) ether is not reported. When this compound is present in water, it decomposes to hydrochloric acid and formaldehyde.

Client: Winnebago Reclamation
 IEA Job#: L72980670
 Project ID: W.R.S. Leachate
 Matrix: Leachate
 Method: 8270A

Winnebago Leachate Compound List
Base Neutral Acids
ug/L

Dilution Factor	5	1				PQL
	Method Blank	SW0408	SW0408			
Client ID	L301	Method Blank				
Analyte	Lab ID	001	SW0408			
N-Nitrosodimethylamine	UD	U				10
Bis (2-Chloroethyl) ether	UD	U				10
2-Chlorophenol	UD	U				10
bis(2-Chloromethyl)ether	UD	U				10
p-Cresol	200	U				10
N-Nitroso-di-n-propylamine	UD	U				10
Hexachloroethane	UD	U				10
Nitrobenzene	UD	U				10
o-Nitrophenol	UD	U				10
2,4-Dimethylphenol	51	U				10
bis (2-Chloroethoxy) methane	UD	U				10
2,4-Dichlorophenol	UD	U				10
Naphthalene	UD	U				10
Hexachlorobutadiene	UD	U				5.0
Hexachlorocyclopentadiene	UD	U				10
2,4,6-Trichlorophenol	UD	U				10
2-Chloronaphthalene	UD	U				10
Dimethylphthalate	UD	U				10
2,6-Dinitrotoluene	UD	U				10
Acenaphthene	UD	U				10
2,4-Dinitrophenol	UD	U				50
p-Nitrophenol	UD	U				50
2,4-Dinitrotoluene	UD	U				10
Diethylphthalate	UD	U				10
4-Chlorophenyl phenyl ether	UD	U				10
Fluorene	UD	U				10
4,6-Dinitro-o-cresol	UD	U				50
N-Nitrosodiphenylamine (1)	UD	U				10
4-Bromophenyl phenyl ether	UD	U				10
Hexachlorobenzene	UD	U				10

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Winnebago Reclamation
 IEA Job#: L72980670
 Project ID: W.R.S. Leachate
 Matrix: Leachate
 Method: 8270A

Winnebago Leachate Compound List
Base Neutral Acids
ug/L

Dilution Factor	5	1				
Method Blank	SW0408	SW0408				PQL
Client ID	L301	Method Blank				
Analyte	Lab ID	001	SW0408			
Pentachlorophenol		UD	U			25
Phenanthrene		UD	U			10
Anthracene		UD	U			10
Di-n-butylphthalate		UD	U			10
Fluoranthene		UD	U			10
Pyrene		UD	U			10
Butyl benzyl phthalate		UD	U			10
3,3'-Dichlorobenzidine		UD	U			50
Benzo (a) anthracene		UD	U			10
Chrysene		UD	U			10
bis (2-ethylhexyl) phthalate		UD	U			10
Isophorone		UD	U			10
Di-n-octylphthalate		UD	U			10
Benzo (b) fluoranthene		UD	U			10
Benzo (k) fluoranthene		UD	U			10
Benzo (a) pyrene		UD	U			5.0
Indeno (1,2,3-cd) pyrene		UD	U			10
Dibenz (a,h) anthracene		UD	U			10
Benzo (g,h,i) perylene		UD	U			10
Date Sampled		4/3/98	---			
Date Extracted		4/8/98	4/8/98			
Date Analyzed		4/15/98	4/10/98			

(1) - Cannot be separated from Diphenylamine

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply the PQL by the Dilution Factor.

Client: Winnebago Reclamation
 IEA Job#: L72980670
 Project ID: W.R.S. Leachate
 Matrix: Leachate
 Method: 8080

Winnebago Leachate Compound List

Pesticides / PCB'S

µg / L

Dilution Factor	1	1				PQL
	Method Blank	PW0410	PW0410			
Client ID		L301	Method Blank			
Analyte	Lab ID	001	PW0410			
alpha-BHC		U	U			0.05
beta-BHC		U	U			0.05
delta-BHC		U	U			0.05
gamma-BHC (Lindane)		U	U			0.05
Heptachlor		U	U			0.05
Aldrin		U	U			0.05
Heptachlor epoxide		U	U			0.05
Endosulfan I		U	U			0.05
Dieldrin		U	U			0.10
4,4'-DDE		U	U			0.10
Endrin		U	U			0.10
Endosulfan II		U	U			0.10
4,4'-DDD		U	U			0.10
Endosulfan sulfate		U	U			0.10
4,4'-DDT		U	U			0.10
Methoxychlor		U	U			0.50
Endrin Aldehyde		U	U			0.10
Chlordane		U	U			3.0
Toxaphene		U	U			3.0
Aroclor - 1016		U	U			1.0
Aroclor - 1221		U	U			1.0
Aroclor - 1232		U	U			1.0
Aroclor - 1242		U	U			1.0
Aroclor - 1248		U	U			1.0
Aroclor - 1254		U	U			1.0
Aroclor - 1260		U	U			1.0
Date Sampled		4/3/98	---			
Date Extracted		4/10/98	4/10/98			
Date Analyzed		4/25/98	4/20/98			

PQL = Practical Quantitation Limit

To obtain sample-specific quantitation limit, multiply PQL by the Dilution Factor.

Client: Winnebago Reclamation
IEA Job#: L72980670
Project ID: WRS Leachate

Miscellaneous Organics

Lab Sample ID: 001	Matrix: Water
Client ID: L301	Sample Date: 4/3/98

Analyte	Method	Result	PQL	Units	Date Extracted	Date Analyzed
2,4-D	515.1	U	1	ug/L	4/8/98	4/18/98
Silvex	515.1	U	2	ug/L	4/8/98	4/18/98
Dalapon	515.1	U	0.5	ug/L	4/8/98	4/18/98
Dinoseb	515.1	U	0.5	ug/L	4/8/98	4/18/98
Picloram	515.1	U	0.5	ug/L	4/8/98	4/18/98
Alachlor	8141	U	1	ug/L	4/9/98	4/17/98
Atrazine	8141	U	1	ug/L	4/9/98	4/17/98
Simazine	8141	U	0.2	ug/L	4/9/98	4/17/98
Carbofuran	8141	U	1	ug/L	4/9/98	4/17/98
Parathion	8141	U	0.2	ug/L	4/9/98	4/17/98
Aldicarb	531.1	U	1000	ug/L	---	5/8/98
Endothall	548.0	U	0.01	mg/L	---	4/16/98
Tetrachlorobenzo-p-Dioxin	613	U	0.000	mg/L	4/17/98	4/24/98

Client: Winnebago Reclamation
IEA Job#: L72980670
Project ID: W.R.S. Leachate

Inorganic Analytes

Lab Sample ID: 001/002	Matrix: Water					
Client ID: L301	Sample Date: 4/3/98					

Analyte	Method	Result	Qual	PQL	Units	Date Digested	Date Analyzed
Aluminum, total	6010	1260		550	ug/L	4/10/98	4/10/98
Antimony, total	6010	U		140	ug/L	4/5/98	4/10/98
Arsenic, total	7060A	14.8		2.0	ug/L	4/5/98	4/23/98
Barium, total	6010	624		280	ug/L	4/5/98	4/10/98
Beryllium, total	6010	U		28	ug/L	4/5/98	4/10/98
Boron, total	6010	22300		550	ug/L	4/5/98	4/10/98
Cadmium, total	7131	0.50		0.44	ug/L	4/5/98	5/9/98
Calcium, total	6010	24600		1.1	mg/L	4/5/98	4/10/98
Chromium, total	6010	712		55	ug/L	4/5/98	4/10/98
Cobalt, total	6010	U		280	ug/L	4/5/98	4/10/98
Copper, total	6010	U		140	ug/L	4/5/98	4/10/98
Iron, total	6010	7870		280	ug/L	4/5/98	4/16/98
Lead, total	7421	3.7		3.0	ug/L	4/5/98	4/21/98
Magnesium, total	6010	78.5		1.10	mg/L	4/5/98	4/10/98
Manganese, total	6010	U		85	ug/L	4/5/98	4/10/98
Mercury, total	7470	U		0.2	ug/L	4/4/98	4/5/98
Nickel, total	6010	656		165	ug/L	4/5/98	4/10/98
Potassium, total	6010	814		10.0	mg/L	4/5/98	4/10/98
Selenium, total	7740	U		3.3	ug/L	4/5/98	5/11/98
Silver, total	6010	U		55	ug/L	4/5/98	4/10/98
Sodium, total	6010	3000		1.1	mg/L	4/5/98	4/16/98
Thallium, total	7841	U		1.5	ug/L	4/5/98	4/20/98
Tin, total	6010	304		280	ug/L	4/5/98	4/10/98
Vanadium, total	6010	U		280	ug/L	4/5/98	4/10/98
Zinc, total	6010	278		110	ug/L	4/5/98	4/10/98
Ammonia, total	350.2	2210		0.05	mg/L	---	4/13/98
Ammonia, dissolved	350.2	2120		0.05	mg/L	---	4/13/98
BOD	405.1	431		2.0	mg/L	---	4/3/98
Bicarbonate, total	310.1	8600		4.0	mg/L	---	4/16/98
Chloride, total	325.2	5750		3.0	mg/L	---	4/6/98
COD, total	410.4	4520		10.0	mg/L	---	4/21/98
Cyanide, total	9012	0.020		0.005	mg/L	---	4/9/98
Fecal Coliform	909C	0		0.000	/100 ml	---	4/3/98
Fluoride, total	340.2	0.837		0.10	mg/L	---	4/29/98
Hexavalent Chromium	7196	U		0.10	mg/L	---	4/3/98
Nitrate as N, total	353.2	U		0.10	mg/L	---	4/3/98
Oil and Grease, total	413.1	7.4		5.0	mg/L	---	4/19/98
Phenols, total	9066	835		10	ug/L	---	4/27/98
Phosphorus, total	365.3	6.95		0.02	mg/L	---	4/27/98
Sulfate, total	375.4	U		250	mg/L	---	5/4/98
TDS, total	160.1	11900		4.0	mg/L	---	4/4/98
TSS, total	160.2	70		4.0	mg/L	---	4/4/98
TOC, total	9060	3000		1.0	mg/L	---	4/15/98